

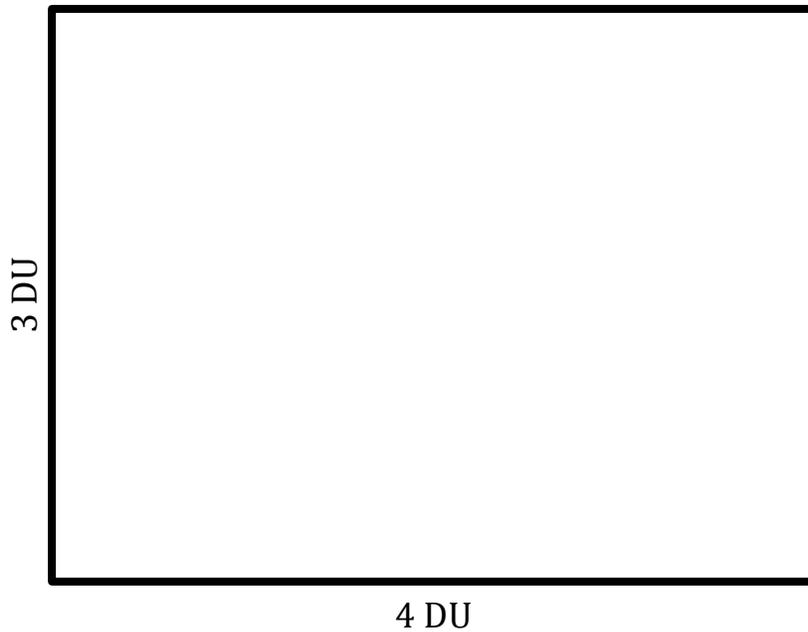
Formative Assessment

Administer the formative assessment and select contrasting student responses to create further opportunities for learning about area measure, especially rectangular area as a product of lengths, structuring rectangles and squares to reveal units of area measure, accounting for partial units of area measure, and justifying why the area of a rectangle and a parallelogram with the same base and height must be the same.

- Mathematical Concepts
- Unit Overview
- Materials and Preparation
- Sweeping Area
- Area Measure
- Area Measure Rectangle
- Area Measure Parallelogram
- Cavalieri's Principle
- Instruction
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Name: _____

1. What is the area of this rectangle? Show the units by drawing them.



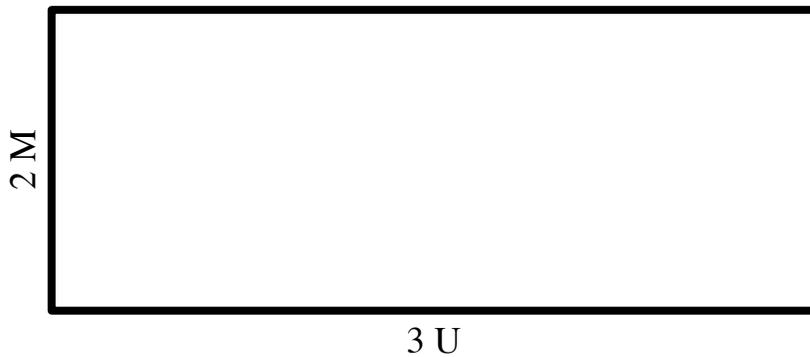
2. What is the area of a $2\frac{1}{2} \text{ in.} \times 4 \text{ in.}$ rectangle? What is its perimeter?
Show how you found out.

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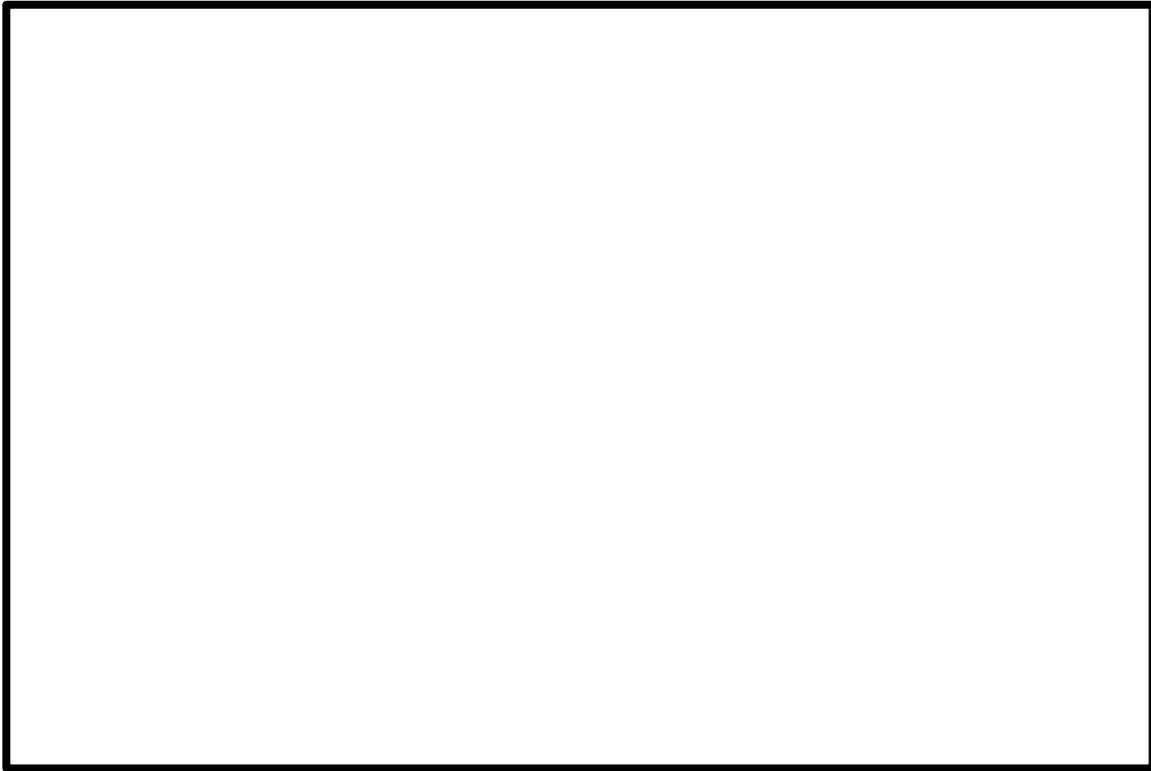
3. Using your ruler, draw $\frac{1}{4} \text{ in.}^2$

Mathematical Concepts
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4. The lengths of the sides of this rectangle are measured in units of M and U , as shown below. What is the area of the rectangle? Show the units of area. What is the perimeter?



Name: _____



Indicate the levels of mastery demonstrated by circling those for which there is clear evidence:

Item	Level <small>Circle highest level of performance</small>	Description	Notes
Item 1 Finding the area of a $3 \text{ in.} \times 4 \text{ in.}$ rectangle and showing 12 in.^2	ToMAA 4A Given an area, partition into arrays of units by coordinating linear measurements of the shape.	3-splits one side, 4-splits the other side, coordinates splits to show 12 DU^2	
	ToAM3B Find and compare areas by counting identical units used to tile.	Cannot coordinate lengths to generate square units but generates some other unit that is used consistently to cover.	
	NL	Cannot partition region systematically.	
Item 2 Finding an area of $2\frac{1}{2} \text{ in.} \times 4 \text{ in.}$ rectangle	ToAM3F Partition to find and compare areas using half-units and other two-splits.	Area as 10 in.^2 and perimeter as 13 in.	
	Other Describe		
Item 3 Draw $\frac{1}{4} \text{ sq. in.}$	ToAM 3F Partition to find and compare areas using half-units and other two-splits.	Draws a unit $\frac{1}{2} \text{ in.} \times \frac{1}{2} \text{ in.}$ or $1 \text{ in.} \times \frac{1}{4} \text{ in.}$	
	ToAM3D Recognize/construct suitable units.	Draws a unit $\frac{1}{4} \text{ in.} \times \frac{1}{4} \text{ in.}$	
	Other Describe		
Item 4 $2M \times 3U$	ToAM4E Find and compare areas with dimensions given in unlike units (e.g., length in cm, width in inches).	Draws 6 rectangular MU units. Notes that the perimeter is $4M + 6U$	
	ToAM3D Recognize/construct suitable units.	Attempts to use a unit of area other than an MU	
	Other Describe		